Medical Image of the Week: Coccidioidomycosis

Figure 1. Preoperative x-ray (Panel A) demonstrating a right upper lobe cavitary lesion. X-ray (Panel B) status post lobectomy.

Figure 2. Coronal (Panel A) and axial (Panel B) images from a chest CT further demonstrating a right upper lobe cavitary lesion.

Figure 3. The 200x magnification H&E image (Panel A) demonstrates one of the numerous granulomas seen in the lung specimen. A low magnification (40x) (Panel B) H&E image showing the granulomatous infection, prominent at the left, surrounded by a wall made up of collagen.
A 41-year-old Hispanic man with a history of uncontrolled type 2 diabetes and coccidioidomycosis, presented to the emergency department with a two year history of hemoptysis and recent onset lower chest pain. Patient was found to have a right upper lobe cavitory lesion on x-ray (Figure 1). Due to concern for pulmonary and pericardial tuberculosis the patient was placed on isolation, and QuantiFERON Gold testing, Coccidioides antibodies and computed tomography of the chest were ordered. At this time the patient revealed that he had taken only 30 days of treatment for his coccidioidomycosis 2 years ago due to his understanding this was the complete course. The CT (Figure 2) demonstrated an irregular, spiculated, and thin-walled right apical cavitory lesion with satellite nodules. QuantiFERON Gold testing and Coccidioides testing were both positive. Surgical resection was performed due to ongoing hemoptysis. The surgical specimen demonstrated hyphae (Figure 4A), a rare spherule (Figure 4B) and caseating granulomas (Figure 3) consistent with coccidioidomycosis. Acid-fast stains were negative. Indications for surgery in coccidioidomycosis are continued or progressing symptoms following 3 months of treatment, complications (such as rupture, pneumothorax or effusion), and large size of abscess (1,2).

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References